

03050107-060

(Fairforest Creek/Tinker Creek)

General Description

Watershed 03050107-060 is located in Spartanburg and Union Counties and consists primarily of ***Fairforest Creek and Tinker Creek*** and their tributaries. Both Fairforest Creek and Tinker Creek flow into the Broad River. The watershed occupies 157,870 acres of the Piedmont region of South Carolina. The predominant soil types consist of an association of the Cecil-Madison-Wilkes series. The erodibility of the soil (K) averages 0.26, and the slope of the terrain averages 13% with a range of 2-40%. Land use/land cover in the watershed includes: 64.4% forested land, 14.7% urban land, 10.5% agricultural land, 9.6% scrub/shrub land, 0.4% barren land, and 0.4% water.

Fairforest Creek originates near the City of Spartanburg and accepts drainage from Goat Pond Creek, Holston Creek, Beaverdam Creek (Reedy Creek), Foster Creek (Underwood Branch), Reedy Branch, Buffalo Creek (Zimmerman Pond), Fleming Branch, Goose Branch, Stillhouse Branch (Smith Branch), and Lancaster Branch (James Branch, Pauline Creek, Dugan Creek). Kelsey Creek flows through Lake Craig (Lake Johnson, Thompson Creek) before entering Fairforest Creek. Black Branch (Whitestone Spring Branch) flows into Fairforest Creek next followed by McElwain Creek (Story Branch, Mineral Spring Branch, Sulphur Spring Branch), Kennedy Creek (Iscons Creek, Cunningham Creek), McClure Creek, Sugar Creek (another Beaverdam Creek, Whitlock Lakes, White Pine Lake), Swink Creek (Bishop Branch), and Rocky Creek. Swink Creek is also known as Mitchell Creek and Bishop Branch is also known as Mill Creek. Further downstream, Fairforest Creek accepts drainage from Mitchell Creek, another Sugar Creek (West Springs Branch), another Buffalo Creek, Dining Creek, Shoal Creek (Toschs Creek), Sand Creek, and Morris Branch.

Tinker Creek flows into the Broad River downstream of Fairforest Creek. Tinker Creek accepts drainage from Henry Creek (Reno Lake), Brushy Creek, and Swift Run. There are several ponds and lakes (totaling 424.3 acres) in this watershed used for recreational purposes, and 261.8 stream miles, all classified FW. The lower portion of the watershed resides within the Sumter National Forest, and Croft State Park is located next to Fairforest Creek, just south of the City of Spartanburg.

Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
B-321	P	FW	TRIBUTARY TO FAIRFOREST CREEK, 200 FEET BELOW S-42-65
B-020	S	FW	FAIRFOREST CREEK AT US 221, S OF SPARTANBURG
B-164	S	FW	FAIRFOREST CREEK AT S-42-651, 3.5 MI SSE OF SPARTANBURG
B-021	P/BIO	FW	FAIRFOREST CREEK AT SC 56
B-235	S	FW	KELSEY CREEK AT S-42-321
CL-035	W	FW	LAKE JOHNSON AT SPILLWAY AT S-42-359
CL-033	W	FW	LAKE CRAIG 45 METERS NW OF DAM
BF-007	S	FW	FAIRFOREST CREEK ON COUNTY ROAD 12, SW OF JONESVILLE
B-199	S	FW	MITCHELL CREEK AT COUNTY ROAD 233, 2.3 MI SSW OF JONESVILLE
B-781	BIO	FW	MITCHELL CREEK AT SR 19, 1 ST REPLICATE OF 2 STA., DOWNSTREAM OF BRIDGE
B-779	BIO	FW	SUGAR CREEK AT SR 52

B-067A	S	FW	TOSCHS CREEK AT US 176, 2 MI SW OF UNION
B-067B	S	FW	TOSCHS CREEK AT ROAD TO TREATMENT PLANT OFF S-44-92, SW OF UNION
BF-008	S/BIO	FW	FAIRFOREST CREEK AT S-44-16, SW OF UNION
B-286	S	FW	TINKER CREEK AT ROAD TO TREATMENT PLANT, 1.3 MI SSE OF UNION
B-287	S	FW	TINKER CREEK AT UNNUMBERED COUNTY ROAD, 1.7 MI SSE OF UNION
B-336	W/BIO	FW	TINKER CREEK AT S-44-278, 9 MI SSE OF UNION

Fairforest Creek - There are five monitoring sites along Fairforest Creek. At the furthest upstream site (**B-020**), aquatic life uses are fully supported. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. There are no metals data available for this site. Recreational uses are not supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations. At the next site downstream (**B-164**), aquatic life uses are fully supported; however, there is a significant increasing trend in total phosphorus concentration. There are no metals data available for this site. Recreational uses are not supported at this site due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations.

Further downstream (**B-021**), aquatic life uses are not supported due to impacts to the macroinvertebrate community, and occurrences of chromium, copper, and zinc in excess of the aquatic life acute standards. There were three very high concentrations of chromium measured from 1995 through 1998 and two high concentrations of zinc. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations.

At the next site downstream (**BF-007**), aquatic life uses are fully supported. There are no metals data available for this site. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. At the furthest downstream site (**BF-008**), aquatic life uses are fully supported based on macroinvertebrate community data and physical/chemical data; however, there is a significant decreasing trend in pH and a significant increasing trend in total phosphorus concentrations. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions.

Unnamed Tributary to Fairforest Creek (B-321) - Aquatic life uses are not supported due to occurrences of chromium, copper, and zinc in excess of the aquatic life acute standards, including four very high concentrations of chromium measured from 1995 through 1999, five high concentrations of zinc measured from 1995 through 1998, and one very high concentration of zinc measured in 1999. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentrations suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions. In addition, there is a significant increasing trend in fecal coliform bacteria concentrations.

Kelsey Creek (B-235) - Aquatic life uses are fully supported, although there are significant decreasing trends in dissolved oxygen concentration and pH. A significant decreasing trend in five-day biochemical

oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions.

Lake Johnson (CL-035) - Lake Edwin Johnson, in Croft State Park in Spartanburg County, is a 40-acre impoundment on Thompson Creek. Lake Johnson's maximum depth is approximately 28 feet (8.5 m); average depth is approximately 14 feet (4.4 m). The lake's watershed comprises approximately 9.3 square miles (24 km²) and includes Lake Craig. The lake is managed for fishing and supports high algal biomass. Aquatic life uses are partially supported due to pH excursions. Recreational uses are fully supported.

Lake Craig (CL-033) - Lake Tom Moore Craig, in Croft State Park in Spartanburg County, is a 105-acre impoundment on Kelsey Creek. The average depth of Lake Craig is approximately 17 feet (5.2 m); the maximum depth is approximately 20 feet (6.1 m). The lake's watershed comprises approximately 8.1 square miles (21 km²). The impoundment has been reconstructed after being destroyed in 1990 floods. Aquatic life uses are fully supported. Although two pH excursions occurred, one was a high value and one was a low value, and therefore do not represent consistent, chronic problems. Recreational uses are fully supported.

Swink Creek or Mitchell Creek (B-199) - There are two monitoring sites along Mitchell Creek. At the upstream site (**B-199**) aquatic life uses are fully supported. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. Recreational uses are not supported at this site due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations. At the downstream site (**B-781**), aquatic life uses are fully supported based on macroinvertebrate community data.

Sugar Creek (B-779) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Toschs Creek - There are two monitoring sites along Toschs Creek. At the upstream site (**B-067A**), aquatic life uses are fully supported. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand, total phosphorus concentrations, and turbidity suggest improving conditions for these parameters. At the downstream site (**B-067B**), aquatic life uses are also fully supported. There is a significant decreasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported at either site due to fecal coliform bacteria excursions.

Tinker Creek - There are three monitoring sites along Tinker Creek. At the upstream site (**B-286**), aquatic life uses are fully supported; however, there is a significant decreasing trend in pH and a significant increasing trend in total phosphorus concentrations. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions; however, a significant

decreasing trend in fecal coliform bacteria concentrations suggests improving conditions for this parameter.

Further downstream (**B-287**), aquatic life uses are also fully supported and a significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. Although there were two copper excursions, aquatic life uses are fully supported at the furthest downstream site (**B-336**) based on macroinvertebrate community data. Recreational uses are not supported due to fecal coliform bacteria excursions.

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM FACILITY NAME PERMITTED FLOW @ PIPE (MGD) COMMENTS</i>	<i>NPDES# TYPE LIMITATION</i>
FAIRFOREST CREEK SSSD/FAIRFOREST PLANT PIPE #: 001 (Conversion to Regional WWTF) PHASE II: Upgrade SSSD/Fairforest to 20mgd; Construct new outfall to Pacolet River PHASE III: Eliminate SSSD/Lawson Fork & Upgrade SSSD/Fairforest to 30mgd	SC0020435 MAJOR DOMESTIC WQL FOR TRC, NH3N
FAIRFOREST CREEK FAIRWOODS SD/UNITED UTILITIES PIPE #: 001 FLOW: 0.065	SC0035041 MINOR DOMESTIC EFFLUENT
FAIRFOREST CREEK SSSD/CAROLINA COUNTRY CLUB PIPE #: 001 FLOW: 0.1 WQL FOR DO,TRC	SC0039560 MINOR DOMESTIC WATER QUALITY
FAIRFOREST CREEK CITY OF UNION/TOSCHS CREEK WWTP PIPE #: 001 FLOW: 6.0 WQL FOR BOD5,DO,TRC,NH3N	SC0047244 MAJOR DOMESTIC WATER QUALITY
FAIRFOREST CREEK WILSON BROS. SAND CO. PIPE #: 001 FLOW: M/R	SCG730202 MINOR INDUSTRIAL EFFLUENT
FAIRFOREST CREEK DITCH ADO CORP. PIPE #: 001 FLOW: M/R	SCG250071 MINOR INDUSTRIAL EFFLUENT
FAIRFOREST CREEK TRIBUTARY POWDERCRAFT CORP. PIPE #: 001 FLOW: M/R	SCG250159 MINOR INDUSTRIAL EFFLUENT
HOLSTON CREEK EVANS MHP PIPE #: 001 FLOW: 0.0038 WQL FOR TRC,NH3N	SC0029521 MINOR DOMESTIC WATER QUALITY

HOLSTON CREEK
MINI MART/SPARTANBURG
PIPE #: 001 FLOW: M/R

SCG830017
MINOR INDUSTRIAL
EFFLUENT

REEDY CREEK
SSSD/MARILYNDALE SD
PIPE #: 001 FLOW: 0.0415
WQL FOR TRC

SC0030121
MINOR DOMESTIC
WATER QUALITY

GOAT POND CREEK
PHILLIPS PETROLEUM CO.
PIPE #: 001 FLOW: 0.064
WQL FOR BOD

SC0047805
MINOR INDUSTRIAL
WATER QUALITY

KELSEY CREEK
CITCO PETROLEUM
PIPE #: 001 FLOW: M/R

SCG340008
MINOR INDUSTRIAL
EFFLUENT

KELSEY CREEK
TRANSMONTAIGNE TER./SPARTANBURG
PIPE #: 001 FLOW: M/R
PIPE #: 002 FLOW: M/R

SC0048089
MINOR INDUSTRIAL
EFFLUENT
EFFLUENT

KELSEY CREEK
COLONIAL PIPELINE/SPARTANBURG
PIPE #: 001 FLOW: M/R

SC0040665
MINOR INDUSTRIAL
EFFLUENT

MILL CREEK
TOWN OF JONESVILLE
PIPE #: 001 FLOW: 0.25
WQL FOR DO,TRC,NH3N

SC0024988
MINOR DOMESTIC
WATER QUALITY

MINERAL SPRING BRANCH
SPARTANBURG BOYS HOME, INC.
PIPE #: 001 FLOW: 0.0035
WQL FOR TRC

SC0024449
MINOR DOMESTIC
WATER QUALITY

ROCKY CREEK
MILLIKEN & CO./CEDAR HILL PLT
PIPE #: 001 FLOW: 0.017 (PHASE I)
PIPE #: 001 FLOW: 0.0187 (PHASE II)
PIPE #: 001 FLOW: 0.0206 (PHASE III)
WQL FOR TRC,NH3N

SC0000809
MINOR INDUSTRIAL
WATER QUALITY
WATER QUALITY
WATER QUALITY

TOSCHS CREEK TRIBUTARY
TORRINGTON CO./UNION BEARINGS
PIPE #: 001 FLOW: M/R
PIPE #: 002 FLOW: M/R
WQL FOR BOD5

SC0038636
MINOR INDUSTRIAL
WATER QUALITY
WATER QUALITY

ISCONS CREEK TRIBUTARY
MILLIKEN & CO./WHITESTONE PKG
PIPE #: 001 FLOW: M/R

SC0023370
MINOR INDUSTRIAL
EFFLUENT

SUGAR CREEK TRIBUTARY
UNION AMOCO STATION
PIPE #: 001 FLOW: M/R

SCG830023
MINOR INDUSTRIAL
EFFLUENT

TINKER CREEK
CITY OF UNION/BELTLINE PLANT
PIPE #: 001 FLOW: 0.35

SC0021202
MINOR DOMESTIC
WQL FOR BOD5,DO,TRC,NH3N

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

<i>LANDFILL NAME</i> <i>FACILITY TYPE</i>	<i>PERMIT #</i> <i>STATUS</i>
RED HILL LANDFILL INDUSTRIAL	422429-1601 ACTIVE
CAMP CROFT LANDFILL DOMESTIC	421001-1102 (DWP-099, DWP-002) CLOSED
CITY OF SPARTANBURG TRANSFER STATION DOMESTIC	421005-6001 -----
CITY OF UNION – BRISON ST C&D CONSTRUCTION	441003-1301 -----
PHILIPPI CHURCH RD ST LANDFILL CONSTRUCTION	442604-1301 -----
DISCOUNT TIRE OF SPARTANBURG -----	422450-5201 -----
MAXIE COPELAND LANDFILL LONGTERM C&D LANDFILL	442329-1201 ACTIVE

Mining Activities

<i>MINING COMPANY</i> <i>MINE NAME</i>	<i>PERMIT #</i> <i>MINERAL</i>
WILSON BROTHERS SAND CO. FAIRFOREST CREEK SAND MINE	1059-83 SAND

Growth Potential

There is a high potential for growth in this watershed, which contains portions of the Cities of Spartanburg and Union, the Towns of Pacolet and Jonesville, and the Buffalo Mill Village. Industrial growth in particular is expected along the I-85 corridor and major roads with I-85 interchanges at the top of the watershed. There are also industrial developmental pressures along I-26, U.S. Hwy. 29, and U.S. Hwy. 221. Urban development is evident in the City of Union and in the unincorporated Buffalo Mill Village in the form of residential, commercial, and industrial uses. Growth is most evident along the U.S. Hwy. 176 Bypass. U.S. Hwy. 176 north from Union to Spartanburg has been widened to four lanes and has generated the development of an industrial park. The lower portion of the watershed is effectively excluded from development by the Sumter National Forest.